

21549

S/057/61/031/004/015/018  
B125/B202

Coefficients of mutual diffusion ...

which is obtained from the rigorous kinetic theory. In this formula  $D_{12}$  denotes the coefficient of the mutual diffusion ( $\text{cm}^2/\text{sec}$ );  $T$  - the absolute temperature;  $k$  - the Boltzmann constant,  $M_1, M_2, \sigma_1, \sigma_2, \epsilon_1, \epsilon_2$  the molecular weights, the collision diameters ( $\text{\AA}$ ) and the potential parameters ( $^\circ\text{K}$ ) of the diffusing gases;  $\Omega(T_{12}^*)$  the collision integral;  $\Delta$  the correction of second approximation;  $B = 26.280$  a constant coefficient. The quantities  $\sigma_1, \sigma_2, \epsilon_1, \epsilon_2$  were calculated from analogous formulas for the viscosity coefficients of the pure components by using the experimental values of the viscosity coefficients and their temperature dependence. The theoretical values of the coefficients of mutual diffusion (column 9 of the Table) were calculated from the same Eq. (1), however, by using the empirical coefficient

$$B = 30.3 - 6.96 \left[ \frac{M_1 + M_2}{M_1 M_2} \right]^{1/2} \quad (2) \text{ suggested by C. R. Wilke a. C.-Y. Lee}$$

(Ind. Eng. Chem., 47, 6, 1255, 1955). Column 6 contains the experimental

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Coefficients of mutual diffusion ...

coefficients of the mutual diffusion as referred to standard conditions (p - 760 mm Hg, T - 273°K). Column 7 contains the experimental values obtained by various methods. The reduction of the results of the present study and also the results obtained by other authors led to formula

$D_{012} = D_{12} \frac{P}{760} \left( \frac{273}{T} \right)^{3/2}$ . The experiments were made with commercially pure gases. By purifying SF<sub>6</sub> the coefficient of the mutual diffusion was reduced by not more than 0.5%. Conclusions: the results obtained by the optical method of measurement are in good agreement with the results of the measurements made by other authors and other methods. The method of measurement described in the present paper permits the determination of the coefficient of mutual diffusion with high accuracy. This method is absolute and requires no calibration and no device for analysis. On the average, the theoretical results obtained deviate from the experimental results by 8% at the maximum. The theoretical values determined by the empirical coefficient B suggested by Wilke and Lee deviate from the experimental values by 5.5% at the maximum. Hence, this empirical coefficient permits a certain improvement of the accuracy of

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S/057/61/031/004/015/018  
B125/B202

Coefficients of mutual diffusion ...

calculation of the coefficients of mutual diffusion. The accuracy of calculation can be increased by making the rules governing the interaction between the various molecules more precise. For this purpose, the temperature dependence of the coefficients of mutual diffusion must be further increased. There are 1 table and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The two most recent references to English-language publications read as follows: T. O. Hirschfelder, G. F. Curtiss, R. B. Bird, Molecular Theory of Gases and Liquids. New York, 1954. C. R. Wilke a. C. Y. Lee. Ind. Eng. Chem., 47, 6, 1255, 1955.

ASSOCIATION: Ural'skiy politekhnicheskii institut im. S. M. Kirova  
Sverdlovsk (Ural Polytechnical Institute imeni S. M. Kirov  
Sverdlovsk)

SUBMITTED: May 3, 1960

Card 4/7

S/022/62/015/002/002/009  
D218/D302

The order of approximation of ...

$$f(z) = \sum_{n=0}^{\infty} a_n P_n(z), \quad z \in G$$

where  $P_n(z)$  are the polynomials referred to above and the series converges uniformly in  $G$  when the above conditions are satisfied. The author derives three inequalities which give the degree of ap-

proximation of  $f(z)$  by  $\sum_{n=0}^N a_n P_n(z)$  where  $N$  is a finite number, i.e.

inequalities involving  $|f(z) - \sum_{n=0}^N a_n P_n(z)|$  on the L.H.S., and  $N$

and other parameters on the R.H.S. Series involving orthogonal polynomials, which are of the form given by Eq. (2), are natural generalizations of Taylor series in the complex domain. The present results constitute an extension of some of the convergence theorems

Card 2/3

SUYETIN, P.K.

Fundamental properties of Faber's polynomials. Usp. mat. nauk  
19 no.4:125-154 '64. (MIRA 17:10)

L 29143-05 241, d 1/7 10P(2)

ACCESSION NR: AP4048027

S/0020/64/158/006/1275/1277 15

AUTHORS: Suyetin, P.K. 13

TITLE: On representation of continuous and differentiable functions  
by Fourier series in Legendre Polynomials 13

SOURCE: AN SSSR, Izvestiya\*, v. 198, no. 6, 1964, 1275-1277

TOPIC TAGS: Fourier series, Legendre polynomials, differentiable  
function, orthogonal polynomials, real analysis.

ABSTRACT: Theorem 1. Any function  $f(x)$  that satisfies a Lipschitz  
condition on the interval  $[-1, 1]$  can be expanded in  
a Fourier series in Legendre polynomials uniformly on  
the interval  $[-1, 1]$ .

100-33474-100

where  $\alpha_0, \alpha_1, \dots, \alpha_n$  are Legendre polynomials and  $\alpha_0$  is a constant. These polynomials are not only the series in Legendre polynomials, but also the series in polynomials orthogonal on  $[-1, 1]$ . A similar series will also be obtained if the Legendre polynomials are replaced by the Chebyshev polynomials.

**Institute, Academy of Sciences, USSR**

SUBMITTED: 27 Apr 64

ENCL: 00

... .. A.A.

MA 277 307 007

OTHER: 000

1992

SUYETIN, P.K.

Some asymptotic properties of orthogonal polynomials in the  
complex region. Dokl. AN SSSR 164 no.2:285-288 S '65.

(MIRA 18:9)

1. Sverdlovskoye otdeleniye Matematicheskogo instituta im. V.A.  
Steklova AN SSSR. Submitted February 19, 1965.

L 36477-66 EWI(d) 1J(c)

ACC NR: AP6027049

SOURCE CODE: UR/0042/66/021/002/0041/0088

AUTHOR: Suyetin, P. K.

ORG: none

TITLE: General properties of polynomials orthogonal along a boundary

SOURCE: Uspekhi matematicheskikh nauk, v. 21, no. 2, 1966, 41-88

TOPIC TAGS: polynomial, asymptotic property, analytic function, series, orthogonal function

ABSTRACT: The article presents a comprehensive survey of the asymptotic properties of polynomials orthogonal along a boundary for the case of various conditions imposed on the weight function and the boundary. Using these properties, the author studies the expression of analytic functions by series expansion in orthogonal polynomials. It turns out that the classes of analytic functions which can be expressed by such series are in each case fixed by the properties of the weight function and the boundary. Various formulas and evaluation for the above-mentioned polynomials are derived for various types of weight functions. The article is divided into four chapters: 1 - Secondary Results; 2 - Asymptotic Properties of Orthogonal Polynomials; 3 - Orthogonal Polynomial Series; and 4 - Certain Results Concerning the V.A. STEKLOV Problem. Almost all the results presented in the present survey were published earlier, possibly in a less general form, by various authors. Orig. art. has: 142 formulas. [JPRS: 36,364]

SUB CODE: 12 / SUBM DATE: 28Jul64 / ORIG REF: 047 / OTH REF: 007

Card 1/1MLP

UDC: 519.9

S/862/62/001/000/009/012  
E202/E592

AUTHOR: Suyetin, P. Ye.

TITLE: Optical method of measuring the coefficient of mutual diffusion of gases

SOURCE: Teplo- i massoperenos. t.1: Teplofizicheskiye kharakteristiki materialov i metody ikh opredeleniya. Ed. by A. V. Lykov and B. M. Smol'skiy. Minsk, Izd-vo AN BSSR, 1962, 188-190

TEXT: In apparatus using a light source and a system of two diffraction gratings, one of which is the negative of the other, measurements of mutual diffusion of gases are carried out indirectly by measuring the quantity of light penetrating through the above grating system when diffusion takes place. When diffusion is absent no light passes through the system since the alignment of the gratings obliterates the beam of light. The measurement of diffusion may be carried out continuously, the lapse of time being marked on the same moving film which records the trace of the diffusion process. Diffusion is measured in terms of density gradient. Details of the experimental set-up and procedure are given, together with tabulated values of the

Card 1/2

Optical method of measuring ...

S/862/62/001/000/009/012  
E202/E592

coefficients of mutual diffusion for the following pairs of  
gases:  $H_2 - He$ ;  $H_2 - N_2$ ;  $H_2 - Air$ ;  $H_2 - Ar$ ;  $H_2 - CO_2$ ;  $H_2 - SF_6$ ;  
 $He - C_2H_2$ ;  $He - N_2$ ;  $He - Air$ ;  $He - O_2$ ;  $He - Ar$ ;  $He - CO_2$ ;  
 $He - SF_6$ ;  $N_2 - CO_2$ ;  $N_2 - SF_6$ ;  $Air - CO_2$ ;  $Air - C_2H_2$ ;  $Air - SF_6$ ;  
 $O_2 - C_2H_2$ ;  $O_2 - CO_2$ ;  $O_2 - SF_6$ ;  $Ar - C_2H_2$ ;  $Ar - CO_2$ ;  $Ar - SF_6$ ;  
 $CO_2 - SF_6$ .

The results given by the above method agree well  
with the values given in the Kaye and Laby "Table of Physical and Chemical  
Constants". The method does not require calibration and analytical  
techniques. There are 1 figure and 1 table.

"ASSOCIATION: Ural'skiy politekhnicheskii institut imeni  
S.M.Kirova  
(Ural Polytechnical Institute imeni S. M. Kirov)

Card 2/2

IVAKIN, B.A.; SUYETIN, P.Ye.

Interdiffusion coefficients for certain gases measured by the optical method. Zhur. tekhn. fiz. 33 no.8:1007-1010 Ag '63.  
(MIRA 16:11)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova, Sverdlovsk.

SUYETIN, P.Ye.; VOLOBUYEV, P.V.

Volumetric differential manometer for measuring small pressure differences. Zav.lab. 30 no.3:374 '64. (MIRA 17:4)

1. Ural'skiy politekhnicheskiy institut.

ACCESSION NR: AP4020591

S/0057/64/034/003/0576/0576

AUTHOR: Nevolin, V.K.; Suyetin, P.Ye.

TITLE: Surface ionization of potassium incident to diffusion through a Globar rod

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 576

TOPIC TAGS: surface ionization, potassium ionization, potassium diffusion, diffusion through Globar, diffusion through carbon, Globar, potassium

ABSTRACT: Hitherto surface ionization of alkali metals diffusing through non-metallic porous materials has not been studied. Yu.Ya.Stavisskiy and S.Ya.Lebedev (ZhTF, 30,1222,1960) investigated surface ionization of Cs diffusing through tungsten.) Accordingly, in the present work there was investigated the temperature dependence of surface ionization of potassium diffusing out from the hollow core of a Globar rod (resistance element) manufactured by VEB Elektrokohle Lichtenburg (German Democratic Republic). The rod was colored light green and had a porosity of 16%; the wall thickness was 2 mm. The rod was heated by passage of direct current; the temperature was determined from the value of the current after calibration with the aid of a thermocouple. Secondary electrons were suppressed by a wide mesh grid. The

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ACC.NR: AP4020591

ion current was measured by means of a non-cooled ion collector. To eliminate intrinsic ion emission, the rod was outgassed by heating at about 1800°K for 30 hours. The vacuum was better than  $3 \times 10^{-5}$  mm Hg. The results for two rates of potassium consumption (not specified) are presented in a figure (see Enclosure). The ion current density at a K vapor pressure of about  $1.6 \times 10^{-1}$  mm Hg in the evaporator and a temperature of 1800°K was about 10 mA/cm<sup>2</sup>. Orig.art. has: 1 figure..

ASSOCIATION: Ural'skiy politekhnicheskii institut im.S.M.Kirova (Ural Polytechnic Institute)

SUBMITTED: 23 Aug63

DATE ACQ: 31Mar64

ENCL: 01

SUB CODE: PH

NR REF SOV: 001

OTHER: 000

Card 2/3

S/0057/64/034/006/1107/1114

ACCESSION NR: AP4040318

AUTHOR: Suyetin, P.Ye.; Volobuyev, P.V.

TITLE: The pressure effect in gas diffusion

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1107-1114

TOPIC TAGS: diffusion, gas diffusion, pressure dependence, argon, helium, hydrogen, pressure gage

ABSTRACT: The pressure effect in gas diffusion due to the more rapid diffusion of the lighter gas, the existence of which was established experimentally by L. Miller and P.C. Karman (Nature 186,4724,549,1960; 191,4786,375,1961) and by K.P. McCarty and E.A. Mason (Phys. Fluids 6,908,1960), was measured quantitatively for argon and helium, argon and hydrogen, and helium and hydrogen, at 20°C and atmospheric pressure. The diffusion took place in a  $4.12 \times 10^{-4} \text{ cm}^2$  cross section 5.5 cm long glass capillary tube joining two nickel plated brass vessels of 490  $\text{cm}^3$  volume. The differential pressure was measured with a special pressure gage employing two corrugated discs of beryllium bronze 64 mm in diameter and 0.1 mm thick. The change in the electrical capacity of these discs due to the flexure of one of them under the in-

Card 1/3

ACCESSION NR: AP4040318

fluence of the differential pressure shifted the frequency of the oscillator, and the change in the beat frequency between this and another oscillator was observed. The sensitivity of this instrument was  $5.35 \times 10^{-4}$  mm Hg per cycle/sec, and the calibration error was  $\pm 3\%$ . The pressure gage was mounted with the discs vertical and their centers in the same horizontal plane as the diffusion capillary. The apparatus was all of heavy aluminum and brass construction, which facilitated thermal equilibration. It was mounted in an air thermostat, the temperature of which was measured with a thermometer calibrated to  $0.05^\circ\text{C}$ . The theory of the gas diffusion pressure effect is developed for comparison with the experimental results. The differential pressure should rise to a maximum and then decrease very slowly as the diffusion process approaches completion. For all three pairs of gases the differential pressure reached its maximum in 5 to 15 minutes and remained steady at this value thereafter. The experimental curves of pressure versus time agreed with the theoretical curves. The maximum pressure differential was found to be  $7.0 \pm 0.3$ ,  $13.2 \pm 0.3$ , and  $17.2 \pm 0.4$  micron Hg for the pairs helium and hydrogen, argon and helium, and argon and hydrogen, respectively; the corresponding theoretical figures are 6.4, 15.6 and 23.2. The authors ascribe the moderate differences between the theoretical and experimental values to the approximate nature of the theory rather than to experimental error. Orig.art.has: 14 formulas, 5 figures and 1 table.

Card 2/3

ACCESSION NR: AP4040319

S/0057/64/034/006/1115/1123

AUTHOR: Ivakin, B.A.; Suyetin, P.Ye.

TITLE: Investigation of the temperature dependence of the diffusion coefficients of gases

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1115-1123

TOPIC TAGS: diffusion, gas diffusion, temperature dependence, molecular interaction, air, argon, carbon monoxide, carbon dioxide, hydrogen, helium, nitrogen, sulfur compound

ABSTRACT: The diffusion coefficients of 18 pairs of gases were measured over the temperature range from 290 to 470°K by an optical method described elsewhere (P.Ye. Suyetin, G.T.Shchegolev and R.A.Klestov, ZhTF 29, No.8, 1959; P.Ye.Suyetin and B.A.Ivakin, Ibid.31, No.4, 1961; B.A.Ivakin and P.Ye.Suyetin, Ibid.33, No.8, 1963). The pairs investigated were He-air and all the combinations except A-CO, A-N<sub>2</sub> and CO-N<sub>2</sub> of the following gases: A, CO, CO<sub>2</sub>, H<sub>2</sub>, He, N<sub>2</sub> and SF<sub>6</sub>. The apparatus was placed in a heavily constructed thermostatic chamber the temperature of which was controlled to ±0.1°C. A temperature difference of about 1°C was maintained between the top and

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ACCESSION NR: AP4040319

bottom of the apparatus to prevent convection. Each measurement was repeated 10 times, and the errors ranged between 1.5 and 2.5%. The results are tabulated. The Lennard-Jones potential, a modified Buckingham potential, and a simple power law repulsive potential were fitted to the diffusion coefficient data, and the parameters are tabulated for each pair of gases. The parameters describing the intermolecular potentials were also calculated from the potentials between like molecules obtained from viscosities or second virial coefficients. The usual averaging procedure was employed, in which the arithmetic mean of the ranges and the geometric mean of the potentials are taken. The forces between unlike molecules calculated in this way did not agree well with those obtained directly from the diffusion data. The diffusion coefficients were calculated from the intermolecular potentials for temperatures up to 1100°K for five pairs of gases for which the relevant experimental data are available. The values calculated from the intermolecular potentials obtained directly from the lower temperature diffusion data were in satisfactory agreement with experiment; those calculated from intermolecular potentials obtained by averaging the potentials for like molecule interactions were not. It is interesting that better agreement with experiment was obtained with the simple power law repulsive potential than with either the Lennard-Jones or the Buckingham potential. Orig.art.has: 11 formulas, 1 figure and 3 tables.

Card 2/3

ACCESSION NR: AP904031B

ASSOCIATION: Ural'skiy politekhnicheskii institut (Ural Polytechnic Institute)

SUBMITTED: 19Nov63

DATE ACQ: 19Jun64

ENCL: 00

SUB CODE: ME, NP

NR REF SOV: 003

OTHER: 003

Cord 3/3

SUYETIN, P.Ye.; IVAKIN, B.A. (Sverdlovsk)

On a certain problem in three-component diffusion. Zhur. fiz.  
khim. 38 no.3:576-578 Mr '64. (MIRA 17:7)

1. Ural'skiy politekhnicheskii institut.

SUYETIN, P. Ye.; VOLOBUYEV, P. V.

"Baroeffect with mutual gas diffusion."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, M<sub>insk</sub>, 4-12  
May 1964.

Ural' Polytechnic Inst.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001654020018-4

L 33177-65 EWP(m)/EPF(c)/EWI(l)/EWI(m)/FCS(k)/EWP(b)/EWA(d)/EWP(t)/EWA(l) Pd-1/

Fr-4 IJP(c) JD

ACCESSION NR: AP5005239

S/0057/65/035/002/0336/0344

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001654020018-4"

**"APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001654020018-4**

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001654020018-4"**

L 3621-66 EWF(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)

ACCESSION NR: AP5024053

UR/0057/65/035/009/1689/1691  
533.15

AUTHOR: Suyetin, P. Ye.; Volobuyev, P. V.

38  
B

TITLE: On the thermodynamic theory of the baroeffect

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1689-1691

TOPIC TAGS: irreversible thermodynamics, gas diffusion, gas flow, pressure effect, back pressure

ABSTRACT: If two large vessels containing different gases at the same temperature and pressure are joined by a capillary, diffusion will take place in the capillary at different rates in the two directions, with the result that a pressure difference will develop between the two vessels and there will be a hydrodynamic flow in the capillary. If the concentration equilibration time is long compared with the pressure equilibration time, there will be a prolonged quasi-equilibrium condition in which an approximately constant pressure differential will be maintained between the two vessels. This quasi-equilibrium pressure differential constitutes the "baroeffect", which the authors have previously investigated both experimentally and theoretically (ZhTF, 34, No.6, 1964; 35, No.2, 1965). The quasi-equilibrium condition is a steady state of the first order in the terminology of S.R.deGroot

Card 1/2

L 3621-66

ACCESSION NR: AP5024053

(Thermodynamics of Irreversible Processes, Interscience, N.Y., 1951). In the present paper the baroeffect is discussed with the methods of irreversible thermodynamics and a formula is derived giving the pressure difference in terms of the diffusion constant, the viscosity, the molecular weights of the gases, and the radius of the capillary. The authors have previously derived this formula from kinetic considerations, but the thermodynamic treatment gives a clearer picture of the assumptions on which it must be based. Orig. art. has: 14 formulas.

ASSOCIATION: none

SUBMITTED: 12Nov64

ENCL: 00

SUB CODE: ME, TD

NO REF SOV: 004

OTHER: 000

*beb*

Card 2/2

L 25520-66 EWT(11)

ACC NR: AP6011409

SOURCE CODE: UR/0057/66/036/003/0569/0570

AUTHOR: Fedorov, Ye.B.; Ivakin, B. A.; Suyetin, P. Ye.

47  
e

ORG: Ural Polytechnic Institute im. S.M.Kirov, Sverdlovsk (Ural'skiy politekhnicheskii institut)

TITLE: Measurement of the mutual diffusion constants of gases with an optical technique

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 3, 1966, 569-570

TOPIC TAGS: gas diffusion, helium, argon, air, krypton, fluorine compound, optic method

ABSTRACT: The apparatus for measuring gas diffusion constants by an optical technique, described elsewhere by P. Ye. Suyetin, G.T.Shchegolev, and R.A.Klestov (ZhTF, 29, No.8, 1959) and B.A.Ivakin and P.Ye.Suyetin (ZhTF, 34, No.6, 1964), has been improved. The improvements, which are described briefly, will make it possible to measure diffusion constants with greater ease and accuracy than before, and at pressures far from atmospheric. The improved apparatus has been employed to measure the diffusion constants at room temperature and atmospheric pressure of the following pairs of gases: He-Ar, He-air, He-SF<sub>6</sub>, He-Kr, H<sub>2</sub>-Kr, and Ar-Kr. The results are tabulated and compared with the results of other investigators and with theoretical diffusion constants calculated

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UDC: 533.15

L 25520-b6

ACC NR: AP6011409

with Lennard-Jones potentials derived from viscosity measurements. The present measurements are in good agreement with both the earlier measurements and the theoretical values. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20

SUBM DATE: 07Jul65

ORIG. REF: 002

Card 2/2

L 02268-67 EWT(1)/EWT(m)/ENP(t)/ETI IJP(c) JD

ACC NR: AP8025259

SOURCE CODE: UR/0057/66/036/007/1292/1296

AUTHOR: Volobuyev, P.V.; Suyetin, P.Ye.

ORG: none

TITLE: Kinetic theory treatment of the baroeffect

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 7, 1292-1296

TOPIC TAGS: gas diffusion, pressure effect, isothermal flow, kinetic theory, slip flow

ABSTRACT: The authors employ the rigorous kinetic theory methods of Enskog to discuss the baroeffect (the pressure gradient arising in isothermal diffusion of a binary gas mixture in a capillary). The results of the present calculations differ from those of the previous simpler treatment of the authors (ZhTF, 35, No.2, 1965) mainly in an improved expression for the slip velocity. It is shown that the baroeffect can be observed in the diffusion of two gases of equal molecular weight provided the molecules (regarded as rigid spheres) have different diameters. The baroeffect was measured at room temperatures and pressures from 1 to 700 mm Hg in  $H_2-SF_6$ ,  $H_2-D_2$ ,  $Ar-He$ , and  $He-N_2$  mixtures, using the apparatus described earlier by the authors (ZhTF, 34, No.6, 1964), and also in  $H_2-He$  mixtures with capillaries of different lengths. The experimental results were in good agreement with calculations performed

Card 1/2

53  
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*Electrical Physics*

10-553 349 551 24

2872

**The Generation of High-Power Electric Oscillations by a Low Pressure Discharge.** A. I. Granovskiy & I. A. Suetin. *U.S.S.R. Acad. Sci. J. Phys.* 1969 Vol. 49, No. 6, pp. 419-423. (In English) Brief summary of results of a study of the generation of oscillations by gas discharge tubes having a perforated diaphragm or a narrow neck dividing the anode from the cathode regions (such tubes are here given the name "stomatotones"). The form of these oscillations depends on temperature, pressure, shape of tube, nature and density of gas discharge, and upon the external circuit. Frequencies of 15-100 kc/s and useful oscillatory powers up to 1 kW were obtained. See also 2871 above.

1ST AND 2ND COVER																										PROCESS AND PROPERTIES INDEX																										1ST AND 2ND COVER																									
SA																										<p>621 390 613 17: 621.383.12 -- 63</p> <p>Stenotron -- an ion valve generator. <i>SELENIN, I. A. Elektrichestvo (No. 5) 44-8 (1946) In Russian.</i> — The stenotron is a device utilizing the sudden break of a i.v. arc for generation of radio frequency pulses of high power. The valve consists of a cold cathode with a fixing ring and a striker electrode next to it, a guard ring above the cathode, an auxiliary anode further up, a diaphragm and finally the main anode. All these electrodes, with the exception of the striker, are mounted on one axis, the whole valve being filled with Hg vapour at 0.5-3 microns. The arc is maintained between the main anode and cathode, the auxiliary anode ensures regular reappearance of the arc. With appropriate impedances connected, frequencies obtained reach <math>10^6</math> c/s, the power rising to 1 kW. A larger water-cooled stenotron is described in some detail. Several curves, circuit diagrams and an oscillogram are presented.</p>																										B 6 6 2																									
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Granovski, V.L. and Sustin, T. A.																			
Generation of power electrical oscillations in the low pressure discharge, 1021-30.																			
Journal of Technical Physics, U.S.S.R., Vol. 16, MAY (1946)																			
Translations Available at Brookhaven National Laboratory																			
ASME-ISA METALLURGICAL LITERATURE CLASSIFICATION																			

SUYETIN, T. A.

"Generation of Powerful Electrical Oscillations in the Low Pressure Discharge.  
I. Periodical Switching Out of the Current in the Discharge Space with a Local  
Narrowing," Zhur. Tekh. Fiz., 16, No. 9, 1946. Mbr., All-Union Electro-Technical Inst.,  
-1946-.

~~SUYETIN, T.~~; POLENOVA, E.;  
*SUYETIN, T.*

" A Case Where Current and Voltage in Rarefied Gas are of Opposite Directions,"  
Journal of Physics, Vol XI, No 1, 1947.

N.E.

*General Physics*

537-545.5 1947  
**The Generation of Powerful Electric Oscillations in a Low-Pressure Discharge: Part 2 — The Use of Current Interruptions in a Low-Pressure Discharge for generating Undamped Electric Oscillations.** — V. L. Granovski & T. A. Suetin. (Zh. tekhn. fiz., 1947, Vol. 17, No. 1, pp. 291-298. In Russian.) An experimental investigation was made of the appearance of oscillations in a low-pressure discharge tube with an abrupt constriction, obtained by the use of a small aperture in a diaphragm made of a dielectric material. Details of experiments and of the tube used are given in part 1 (*ibid.*, 1946, Vol. 16, p. 1024). Experiments have shown that with an aperiodic circuit, not only oscillations of the second type (with periodic interruptions of the current, see last oscillogram in Fig. 1) but also oscillations of the first type (see first oscillogram in Fig. 1) can be obtained. The amplitude, frequency and form of the oscillations of the second type depend on the circuit used and on the conditions of the discharge. A theory of the oscillations is proposed which is confirmed satisfactorily by experiments. It is suggested that periodic interruption of the current in the tube with an abrupt constriction (stenotron) can be used for generating powerful undamped oscillations at ultrasonic frequencies. Examples of oscillation with outputs up to 1 kW and suitable for low-voltage operation are described.

1949

SUETIN, T. A.

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PA 34T70

USSR/Physics  
Discharges, Electric  
Circuits, Oscillator

Jul 1947

"The Effect of Electrical Circuits on Oscillations in Low Pressure Arc Discharges," T. A. Suetin, All-Union Electro-Technical Institute, Moscow, 9 pp

"Zhur Tekh Fiz" Vol XVII, No 7

Describes the study of the effect of electrical circuits on low frequency self-excited oscillation in a low pressure arc discharge. Voltage is included parallel to the discharge and increases the fluctuation amplitude of the current and charge and stabilizes the fluctuation. Introduction of fluctuating

LC

34T70

USSR/Physics (Contd)

Jul 1947

elements into the circuit does not decrease the function of the discharge regime. The positive pole is necessary for the formation of fluctuations and the reactive element if they be present in the circuit. Amplitude and frequency of fluctuation are greater the smaller the size of the positive terminal.

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001654020018-4"

SUETIN, T. A.

"A Case Where Current and Voltage in Rarefied Gas Are of Opposite Directions" Dok. AN, 96, No. 1, 11, 1947; All-Union Electrotechnical Institute, c-1946-.

SUYETIN, T. A. (Cand. of Tech. Scie.)

"Cascade Burning of the Arc in Mercury Rectifiers and Methods of Dealing with It",  
reported in the article "First All-Union Scientific and Technical Session on Mercury-Arc  
Rectifiers", Elektrichestvo, No. 11, 1949.

Abstract W-9395, 10 Apr 1950.

SUYETIN, T. A.  
SUYETIN, T. A.

"Sealed Mercury-Arc Rectifiers," pp 67-75

Abst: Various types of rectifiers are examined (multianode, single-anode, ignitrons, and excitrons), and a short description of some rectifiers and a combined table of all types of rectifiers developed by the All-Union Electrotechnical Institute are given.

SOURCE: Raboty MER SSSR po Mekhan. i Avtomatizatsii Narodn. Khoz. (Work of the Ministry of the Electrical Engineering Industry USSR on Mechanization and Automation in the National Economy), Part 3, Moscow, TsBTI, 1956

Sum 1854

SUYETIN, T.A. , kand. fiz.-mat. nauk.

IVU 100/15 X 6 soldered rectifier. Elek. i tepl. tiaga no.1:19-21  
'57. (MIRA 12:3)

(Mercury-arc rectifiers)

SUYETIN, T.A., kandidat fiziko-matematicheskikh nauk.

Mercury-arc rectifier of a new type for traction substations.  
Zhel.dor.transp. 39 no.6:56-59 Je '57. (MLEA 10:7)  
(Electric railroads--Substations)

105-58-3-22/31

AUTHOR: Suyetin, T. A. , Candidate of Physical-Mathematical Sciences  
 TITLE: Type IVS -200/2 Ignitrons (Ignitron WBC-200/2)  
 PERIODICAL: Elektrichestvo, 1958, Nr 3, pp. 80 - 82 (USSR)

ABSTRACT:

The ignitron IVS-200/2 is widely used at present. In the Laboratory for Soldered-in Mercury-Arc Rectifiers of the All Union Institute for Electrical Engineering imeni Lenin several variants of this ignitron were developed, that is to say, for medium amperages of 200 A and an opposed voltage of 2500 V. Here, the model is described, which has stood its test in practical operation and has found wide application. The ignitron IVS-200/2 possesses two igniters and a subsidiary anode, which not only facilitates the ignition of the main arc, but also permits a regulation of the rectified voltage with the help of a control grid and not by a change of the ignition moment of the cathode spot by the igniter. The cooled rectifier parts are produced from stainless steel for the purpose of preventing a diffusion of hydrogen from the water

Card 1/2

105-58-3-22/31

Type IVS -200/2 Ignitrons

chamber into the cylinder. The igniters are at present produced on the basis of boron carbide, the ignition current not exceeding 12 A and the ignition voltage not 350 V. The life of such igniters can be estimated to be at least 20 000 hours. When two igniters are used, it can be assumed with certainty that the life of the ignitron amounts to at least 5 years. The weight of the ignitron amounts to 26 kg. Technical data: Medium anode current 200 A, excess current load for 10 minutes - 265 A, for 2 minutes 320 A, for 30 seconds - 450 A. Maximum inverse voltage - 2500 V, the potential drop in the arc not exceeding 16 V, negative displacement at the grid-150 V grid current (amplitude) - 150 mA. Current in the subsidiary anodes - 1,5 to 2,0 A. Cooling by water rotation cooling. Cooling water temperature - 20 to 35°C. Water consumption at  $\Delta t = 8^\circ$  - 6 liters/minute. There are 3 figures.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskii institut imeni Lenina  
 (All-Union Institute for Electrical Engineering imeni Lenin)  
 SUBMITTED: November 5, 1957

Card 2/2

9(4)

SOV/112-59-5-9809

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 197 (USSR)

AUTHOR: Suyetin, T. A.

TITLE: IS 110/10 x 6 Air-Cooled Rectifier

PERIODICAL: Elektr. i teplovozn. tyaga, 1958, Nr 4, pp 11-13

ABSTRACT: A new air-cooled rectifier intended for railroad-traction substations has been developed by VEI and, after testing, installed for tentative operation. The unit has a rated current of 500 amp at 3,300 v and comprises 6 sealed metal IS 110/10 ignitrons (average current 100 amp, maximum reverse voltage 10 kv) mounted on a common frame with a cooling fan. Auxiliary and control equipment is mounted in a separate cabinet.

A.A.S.

Card 1/1

AUTHOR: Suyetin, T.A. (Candidate of Physical-Mathematical Sciences)  
 TITLE: Ignitron IS 200/2  
 PERIODICAL: Vestnik Elektromyshlennosti, 1958, Nr 8, pp28-31, (USSR)  
 ABSTRACT: Ignitron type IS 200/2, which was developed in the mercury-  
 arc-rectifier laboratory of the All-Union Electrotechnical  
 Institute, is an air-cooled sealed-metal-case ignitron for  
 a rated current of 200 A with a reverse voltage of 2500 V.  
 A diagrammatic cross-section of the ignitron is given in  
 Fig 1, showing the control grid, the auxiliary anode and  
 the de-ionising filter with conical reflector. When used  
 in a suitable circuit the rectified voltage can be  
 regulated from 0 - 100% by grid control and the ignitron  
 can operate as an inverter. The construction of the  
 ignitron is described. The frame is of low-carbon sheet  
 steel with cooling fins; the anode terminal is  
 mechanically robust and the anode cables can be connected  
 directly to the anode rod. Tests have shown that  
 ignitron type IS 200/2 can operate for a long time with a  
 mean anode current of 200 A and will withstand 100%  
 current overload. An oscillogram of the anode current

Ignitron IS-200/2

SOV/110-58-8-8/26

and voltage, given in Fig 2a, shows that for instantaneous current values of up to 1000 amps the drop in the arc does not exceed 16 V. Rig tests have shown that the ignitron operates reliably without backfiring on a phase voltage of 900 V with intensive grid control. The operating conditions during power tests may be judged from the oscillogram, Fig 2b, taken with an inductive-active load with a secondary phase voltage of 900 V during 50% anode current overload with grid control. The ignitron operated reliably under these conditions. The main electrical characteristics of the ignitron are tabulated and a photograph of it is given in Fig 3.

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Ignitron IS-200/2

SOV/110-58-8-8/26

A rectifier made up of six ignitrons ignited by an electromagnetic circuit with saturating chokes was installed in a sub-station of the Moscow Tram and Trolleybus system and has worked well for about 20,000 hours. Experience shows that the life of ignitron IS-200/2 should be at least five or six years.

There are 3 figures.

SUBMITTED: April 2, 1956

1. Rectifiers--Design
2. Rectifiers--Operation
3. Title: Ignitron

Card 3/3

BORTNICHUK, N.Ya., inzh.; BRONSHTEYN, A.M., kand.tekhn.nauk; BYSTRITSKIY, Kh.Ya., inzh.; DUBROVSKIY, Z.M., inzh.; KATKOV, B.S., inzh.; KRASKOVSKAYA, S.N., inzh.; OSIPOV, S.I., inzh.; PERTSOVSKIY, M.L., inzh.; RAKOV, V.A., inzh.; REBRIK, B.N., kand.tekhn.nauk; ~~SUYETIN, T.A., kand.fiziko-matem.nauk; KHITHOV, P.A., .tekhn.red.~~

[Electric locomotives operating on alternating current with ignitrons] Elektrovozy peremennogo toka s ignitronami. Pod obshchey red. V.A.Rakova. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 286 p.

(MIRA 12:10)

(Electric locomotives)

8(2)

AUTHORS:

Sakovich, A. A., Candidate of  
Technical Sciences, Suyetin, T. A.,  
Candidate of Physico-Mathematical Sciences

SOV/105-59-1-17/29

TITLE:

Investigation of Type IVS 100/15 Soldered Ignitrons  
(Issledovaniya zapayannykh ignitronov tipa IVS 100/15)

PERIODICAL:

Elektrichestvo, 1959, Nr 1, pp 68-72 (USSR)

ABSTRACT:

The ignitrons of type IVS 100/15 have a maximum cutoff voltage of 15 kv, a medium anode current of 100 a, an admissible overload up to 300% at intermittent load, and up to 1600 a during ~~one~~ or two half-cycles. After having completed the testing of the experimental types in the laboratory, the limiting parameters of the valves were determined. In the experiments were taking part: N. M. Maslennikov, S. M. Luzhanskiy, V. P. Nadgornyy, Ye. P. Shmarina, L. I. Luzhanskaya and I. V. Blond. Data were obtained for determining operational characteristics. Then these valves were used for the aggregates of the railroad substations on railroad main lines (Ref 1), for high-voltage rotary converters and for a number of other aggregates. Working conditions for the valve in the converter connection scheme are determined not only

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Investigation of Type IVS 100/15 Soldered Ignitrons

SOV/105-59-1-17/29

scheme works in short-circuit operation or in rectifier-inverter operation (the so-called circular scheme). This scheme was used for investigating the parallel operation of valves and the reliability of their work in continuous operation. In the course of investigations, a number of new phenomena was detected. In high currents, the valves continued working after switching off the ignition circuit. The elimination of the harmful phenomena required a careful working out and adjustment of the control scheme. Special difficulties arose in the working out of measures to protect the control scheme from overvoltage. Very extensive were the investigations to eliminate failures to ignite. It was found that in case of soldered valves of the present type the arc-backs occur with a decrease of the coolant temperature. It was found that the valves can stand current overloads up to 10 kA occurring in disturbances, without any trouble to the vacuum and without any deterioration of the electric parameters. There are 5 figures and 2 Soviet references.

SUBMITTED:  
Card 3/3

June 11, 1958

SUYETIN, T.A., kand.fiziko-matematicheskikh nauk; BORODAVCHENKO, P.M., inzh.  
YAKOVLEV, A.N., inzh.

Mercury arc rectifier for industrial installations. Vest.elektroprom.  
31 no.3:7-11 M<sub>r</sub> '60. (MIRA 13'6)  
(Electric current rectifiers)

SUYETIN, T.A., kand.tekhn.nauk

Sealed mercury-arc electric current converters. Vest.elektroprom.  
33 no.2:23-29 F '62. (MIRA 15:2)  
(Electric current converters)

SUYETIN, V.

Camera for submarine photography. IUn.tekh. 2 no.8:70-71  
Ag '59. (MIRA 12:7)  
(Photography, Submarine)

ACC NR: AP6023341	(N)	SOURCE CODE: UR/0029/66/000/004/0020/0021
AUTHOR: Suyetin, V. (Engineer)		
ORG: none		
TITLE: A suit for visiting Neptune		
SOURCE: Tekhnika-molodezhi, no. 4, 1966, 20-21		
TOPIC TAGS: diving equipment, underwater equipment		
<p>ABSTRACT: This is an article intended for young people. It describes the construction of a simple skin-diving suit and a camera and depth meter container which the reader can build. A water suit is needed for protracted skin-diving operations, particularly in cold weather. A pattern is given for cutting out four pieces from which to make a rubberized fabric suit. The suit is designed to be worn over warm underclothes. It completely insulates the body from the water. The camera container or box is made of clear plastic. The depth meter container (also designed to house a watch mechanism) is more complicated in design than the other items, but can be made by hand by the amateur. A flashlight cover for use under the same conditions is also shown. Orig. art. has: 3 figures.</p>		
SUB CODE: 06, 13/ SUBM DATE: none		
Card 1/1		

BARKOV, L.M.; SUYETIN, V.A.

Electron-optical system with diffraction gratings for measuring  
linear motions. Prib. i tkeh. eksp. 8 no.5:196-197 S-0 '63.  
(MIRA 16:12)

1. Institut atomnoy energii AN SSSR.

BARROV, L.M.; ISKIN, K.N.; SUZETIN, V.A.; DOLGALOV, R.N.

Semiautomatic device for processing bubble chamber stereo-  
photographs. Izv. i tekhn. eksp. 8 no. 6:45-52 Nov '63.  
(MIRA 17:6)

1. Institut atomnoy energii AN SSSR.

PETROV, G.N., doktor tekhn. nauk, dotsent; SUYETIN, V.A., inzh.

Universal graphicoanalytical method for determining the law of the motion of a mechanism with one degree of freedom. Izv. vys. ucheb. zav.; mashinostr. no.1:5-11 '65. (MIRA 18:5)

L 27345-66  
ACC NR: AP6007699

SOURCE CODE: UR/0413/66/000/003/0079/0079

AUTHORS: Petrov, G. N.; Nikolayevskiy, Ye. V.; Suyetin, V. A.; Ustinov, A. P.;  
Kozlyaninov, T. P.; Kazakov, B. R.

ORG: none

TITLE: A device for balancing three-dimensional mechanisms with nonparallel rotation axes of the components. Class 42, No. 178542 [announced by Moscow Higher Engineering College im. N. E. Bauman (Moskovskoye vyssheye tekhnicheskoye uchilishche)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 79

TOPIC TAGS: measuring instrument, static load test, dynamic stress

ABSTRACT: This Author Certificate presents a device for balancing three-dimensional mechanisms with nonparallel rotation axes of the components. The device contains a platform with six degrees of freedom and a measuring unit (see Fig. 1.). The design provides simultaneous measuring of the static, dynamic, and axial components of unbalance in the mechanisms. The measurement unit of the device includes three unbalance sensing elements. The axis of sensitivity of one of the sensing elements

UDC: 620.1.05:531.24

Card 1/2

L 27345-66

ACC NR: AP6007699

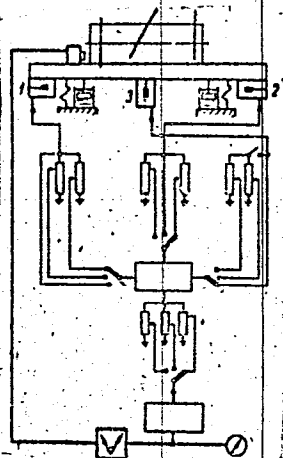


Fig. 1. 1-3 - sensing elements.

is parallel to the axes of sensitivity of the other two. Orig. art. has: 1 figure.

SUB CODE: 14, 09/ SUBM DATE: 16May64

Card 2/2

PB

51-4-3-27/30

AUTHORS: Balakov, V.V. and Gayutin, V.F.

TITLE: Optical Transmission of Monocrystalline Germanium  
(Opticheskoye propuskaniye monokristallicheskogo germaniya.)

PERIODICAL: Optika i Spektroskopiya, 1968, Vol.IV, Nr.3,  
pp.415-416. (USSR)

ABSTRACT: The authors measured transmission of germanium monocrystals prepared by the State Institute for Rare Metals, which differed in their resistivity and type of conduction. The samples were in the form of plane-parallel plates of 8 mm thickness. Measurements were made using an infrared spectrophotometer IKS-2. The sample with the highest resistivity (No.5) was regarded as a standard and its spectral transmission curve was measured. Transmission of other samples was measured relative to this standard. Type of conduction and resistivity of the samples studied are given in the table on p.416. Fig.1 shows dependence of the coefficient of transmission  $T$  on the wavelength in microns. Transmission of the first six samples is given by one curve (curve 1 in Fig.1).

Card 1/3

51-4 -3-27/30

# Optical Transmission of Monocrystalline Germanium

Curve 2 in Fig.1 represents samples Nos.7 and 8. Curves 3, 4 and 5 represent transmission of samples Nos.9, 10 and 11 respectively. Crystals with the same resistivity show higher transmission if they are of electron conduction type than the crystals with hole conduction. In the hole-type crystals dependence of the optical transmission on resistivity is greater than in the electron-type crystals. Smallness of the transmission coefficient (44-46%) is due to large losses on reflection at the two surfaces of germanium plates (the losses amount to about 36% of the incident light at each surface). Fig.2 shows transmission of a germanium plate, 2.2 mm thick, before (curve 1) and after (curve 2) deposition of a layer of ZnS. At the maximum of the anti-reflection action of the ZnS layer, transmission of germanium increases considerably and reaches 94-95%. By deposition of a layer of ZnS on silicon, the optical transmission of the latter can be also improved and made to reach 90%. There are 2 figures, 1 table and 2 Soviet references.

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Optical Transmission of Monocrystalline Germanium

SI-4 -3-27/50

ASSOCIATION: State Optics Institute imeni S.I. Vavilov  
(Gosudarstvennyy opticheskii Institut im. S.I. Vavilova.)

SUBMITTED: July 13, 1957.

1. Germanium crystals--Optical 2. Transmission 3. Trans-  
mission--Measurement 4. Spectrophotometers--Applications

Card 3/3

ACC NR: AP6017973

SOURCE CODE: UR/0413/66/000/010/0073/0073

INVENTORS: Baranov, V. K.; Protasov, N. N.; Krylova, T. N.; Suyetin, V. F.

ORG: none

TITLE: A method for preparing a selectively reflecting mirror. Class 32,  
No. 181792

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 73

TOPIC TAGS: zinc compound, magnesium compound, nickel, chromium, titanium compound,  
silicon compound, mirror, radiation

ABSTRACT: This Author Certificate presents a method for preparing a selectively reflecting mirror. The method involves consecutive deposition of the interference layers of zinc sulfide and magnesium fluoride, or of titanium dioxide and silicon dioxide onto the underside of the interference layers. To absorb radiation passed by the interference coating, the metallic undercoat is previously covered with an absorbing layer of rough nickel or of rough chromium.

SUB CODE: 20//<sup>07/</sup> SUBM DATE: 25Mar65

Card 1/1

UDC: 666.1.056

SUYETIN, V. Ya.

"Duration of the sexual cycle of the Buryat-Mongolian sheep," Trudy Buryat-Mongol. Zoovet In-ta, Issue 4, 1948.

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

SUYMTIN, V. Ya.

"Gonadotropic activity of whole blood of mares with foal according to an experiment on chicks,"  
Trudy Buryat-Mongol. In-ta, Issue 4, 1948, p. 12-26

SO: U-3850, 16 June 53, (Letopia 'Zhurnal 'nykh Statey, No. 5, 1949).

SUYETIN V. Ya.

Spiryukhov, I.A. and Suyetin, V. Ya. - "On the respiratory crests of curves of blood pressure," Trudy Buryat-Mongol. Zoovet. in-ta, Issue 4, 1948, p. 51-59 - Bibliog: 7 items

SO: U-3950, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

BORISOV, M., inzh.; SUYETIN, Yu., inzh.

Lubricating the bearings of wheel hubs. Avt.transp. 38  
no.3:20-21 Mr '60. (MIRA 13:6)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.  
(Automobiles—Lubrication)

BORISOV, M.; SUYETIN, Yu.

Defects of oil filters and fine purification. Avt.transp. 38 no.10:  
24-25 0 '60. (MIRA 13:10)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.  
(Motor vehicles--Engines--Oil filters)

SUYETIN, Yu.K.

Zeros of successive derivatives of entire functions. Usp.mat.  
nauk 17 no.3:197-199 My-Je '62. (MIRA 15:12)  
(Functions, Entire)

SUYETIN, Yu.K. (Ural'sk)

Convergence and uniqueness constants for some interpolation  
problems. Mat. sbor. 66 no.1:142-160 Ja '65.

(MIRA 18:4)

SUYETIN, Yu.F.

Some results of experimental works in hydrogeochemical prospecting  
for mercury-antimony mineralization in southern Fergana Province.  
Vest. LGU 20 no. 6:20-30 1965. (MIRA 18:4)

KOLESANOV, F.F.; KONAREVA, A.S.; Prinimali uchastiye: ABROSIMOV, V.V., inzh.;  
GAVRIN, E.G., inzh.; SUYETINA, G.F., laborant; OLENNIKOV, B.I.,  
laborant; PANOV, O.V., laborant

Pelletizing Ufaley deposit nickel ores with subsequent  
roasting. [Sbor. trud.] Nauch.-issl.inst.met. no.4:54-62  
'61. (MIRA 15:11)

(Ufaley Range--Nickel ores)  
(Ore dressing)

KOLESANOV, P.F.; KONAREVA, A.S.; Prinimali uchastnye: ABROSIMOV, V.V.;  
GAVRIN, E.G.; SUYETINA, G.F.; OLENNIKOV, ~~B.I.~~; PANOV, O.V.

Nodulizing fine oxidized nickel ore by tumbling with subsequent  
firing. TSvet. met. 35 no.5:47-52 My '62. (MIRA 16:5)  
(Nickel ore) (Sintering)

*SUYETINA, I. A.*  
BRODSKIY, V.Ya.; SUYETINA, I.A.

Ultraviolet microscopy and cytophotometry of the bone marrow under normal conditions and following X irradiation. Biofizika 3 no.1: 92-100 '58. (MIRA 11:2)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR, Moskva.

(MARROW) (X RAYS—PHYSIOLOGICAL EFFECT) (NUCLEIC ACIDS)

24(0)

SOV/20-59-124-2-56/71

AUTHORS: Brodskiy, V. Ya., Grayevskiy, E. Ya., Suyetina, I. A.

TITLE: On the Ways of Action of the Ionizing Radiation on the Content of Free Nucleotides and Nucleosides in the Bone Marrow Cells  
(O putyakh vliyaniya ioniziruyushchey radiatsii na sodержaniye svobodnykh nukleotidov i nukleozidov v kletkakh kostnogo mozga)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 440-443 (USSR)

ABSTRACT: Nucleic compounds are early and easily depolymerized in the organism if radiation reaction develops. In vitro relatively small doses of irradiation are sufficient (Refs 4,8,10). The synthesis of nucleic acids is disturbed in directly irradiated as well as in screened body parts (Refs 11-13). Several investigations (Refs 14-16) have shown that the damage of the cells due to irradiation is not directly connected with the preceding change of the amount of nucleic acids. It had to be determined whether the changes of the content of free nucleotides is due to local irradiation effects or to remote action. Experiments were carried out with white mice of both sexes. They were irradiated with 700 r X-rays. The following variants were applied: 1) total irradiation; 2) irradiation of the right part of the body; 3) irradiation of one back extremity; 4) screening of both back extremities with lead plates of a

Card 1/3

SOV/20-59-124-2-56/71

On the Ways of Action of the Ionizing Radiation on the Content of Free Nucleotides and Nucleosides in the Bone Marrow Cells

mitotic activity in the irradiated organism has hitherto not been solved. The reduction of the content of free nucleotides and nucleosides is due to remote action. The processes of destruction are totally, the disturbance of cell division is largely caused by the local action of irradiation (Ref 18). There are 3 figures and 18 references, 9 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR (Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences, USSR)

PRESENTED: September 19, 1958, by A. I. Oparin, Academician

SUBMITTED: June 26, 1958

Card 3/3

BRODSKIY, V.Ya.; SUYETINA, I.A.

Effect of X rays on nucleic acid concentration in the nuclei of marrow cells. Dokl. Akad. Nauk SSSR 134 no.2:439-442 S '60.

(MIRA 13:9)

1. Institut morfologii zhivotnykh im. A.N. Severtsova Akademii nauk SSSR. Predstavleno akad. A.M. Bakulevym.

(MARROW) (NUCLEIC ACIDS) (X RAYS--PHYSIOLOGICAL EFFECT)

SUYETINA, I.A.

Changes in the cells of the mammary gland in rats during pregnancy, lactation and hormonal stimulation. Arkh. anat. gist. i embr. 48 no.4:74-79 Ap '65. (MIRA 18:6)

1. Laboratoriya tsitologii (zav. - kand. biolog. nauk V.Ya. Brodskiy) Instituta morfologii zhivotnykh imeni Severtsova AN SSSR, Moskva.

SUYETINA, Lyudmila Il'inichna; NAVROTSKIY, Vasilii Korneyevich, red.

[Pneumoconiosis; bibliographic index of Soviet literature  
1918-1954] Pnevmonioz; bibliograficheskii ukazatel' ote-  
chestvennoi literatury 1918-1954 gg. Khar'kov, 1955. 163 p.  
(MIRA 13:8)

1. Kharkov. Gosudarstvennaya nauchno-meditsinskaya biblioteka.  
(BIBLIOGRAPHY--LUNGS--DUST DISEASES)

BA SUYETINA, M. A.

H111-24  
Enzymes

OPHTHALMIC LITERATURE.  
Oxidizing enzymes of acorns. N. I. Proskuryakov and M. A. Suyetina. (C.R. Acad. Sci. U.R.S.S., 1951, 77, 443-445).—  
Peroxidase and polyphenoloxidase activities are associated chiefly with the germ, the catalase activity of which does not greatly exceed that of the whole acorn. Storage at 0-3° from December to March does not cause significant change in the activity of the oxidases, but all rise considerably after germination.  
R. TRUSCOR.

SUYETINA, P. V.

Dornidontov, A. A., Leyenson, R. Ye., Suyetina, P. V. and Pevzner, B.A. "Treatment of rickets," Trudy VI Vsesoyuz. s'yezda det. vrachey, posvyashch. pamyati prof. Filatova, Moscow, 1948, p. 227-32

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

RUKAVTSOVA, V.F.; STIFATOVA, N.N.; KOROBKIN, V.B.; MOROZOVA, T.I.;  
SOFRONOVA, V.A.; SHAFOROST, P.D.; PLATONOVA, N.P.; YEREMENKO, O.S.;  
IVANOVA, A.M.; SILAYEVA, N.Ya.; SUYETINA, S.M.; RAL'YANOVA, T.Ye.;

Study of the dust factor in the founding departments of six  
Krasnodar plants. Nauch. trudy Kub. gos. med. inst. 19:63-76  
'62. (MIRA 17:8)

1. Iz sanitarno-epidemiologicheskoy stantsii g. Krasnodara  
i polikliniki No.8 Krasnodara.

DZHAMALOV, S.A.; SUYETNOV, V.V.

Temperature jump and thickness of a neutral layer. Trudy Geol.-  
inst.Dag.fil. AN SSSR L:167-174 '57. (MIRA 14:9)  
(Daghestan--Earth temperature)

S/169/62/000/008/006/090  
E202/EL92

AUTHORS: Dzhamaalov, S.A., Suyetnov, V.V.

TITLE: Geothermal gradient and temperature drop in the  
neutral layer

PERIODICAL: Referativnyy zhurnal. Geofizika, no.8, 1962, 11,  
abstract 8 A 58. (Tr. Geol. in-ta Dagestansk. fil.  
AN SSSR, 2, 1960 (1961), 237-244)

TEXT: Studies of geothermal gradient, zone affected by solar  
heat and regions of "neutral layer" were carried out. It was  
concluded that the determination of the heat losses of the Earth  
should be carried out according to the temperature drop in the  
"neutral layer", found as a result of this work and not  
according to the geometric gradient.

[Abstractor's note: Complete translation.]

Card 1/1

MALININA, K.A.; SMOL'NIKOV, Ye.A.; SUYETOV, A.P.; BADAYEVA, A.A.; LUNEVA, Z.S.; KUKOLEV, V.V.; SOKOLOVSKAYA, V.V.; LEBEDEVA, Ye.A.; UVAROVA, A.F., tekhn.red.

[Technological operations in the manufacture of metal-cutting tools; instructions] Tekhnologiya izgotovleniya metallorezhushchikh instrumentov; rukovodiashchie materialy. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry. No.7. [Heat treatment] Termicheskaya obrabotka. 1960. 127 p.

(MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy instrumental'nyy institut.
2. Termicheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo instrumental'nogo instituta (for all, except Uvarova).  
(Metal-cutting tools) (Metals--Heat treatment)

KATSEV, I.; SUYETOV, M.

Renting to experienced drivers. Za bezop. dvizh. no.3:13 Ag '58.  
(MIRA 11:12)

1.Zamestitel' direktora avtobazy No.12 (for Katsev). 2.Nachal'nik  
kolonny prokata avtobazy No.12 (for Suyetov).  
(Automobiles, Rental)

Fishes-Food

Need of fish for chironomid larvae in aquariums. Trans. Mikrobiol. obshch. 3: 72-91 1951

9. Monthly List of Russian Accessions, Library of Congress, November 195<sup>4</sup><sub>2</sub>, Uncl.

826/1000, S.V.  
KORT, V.G.; SUYETOV, S.V.

Outline history of the Institute of Oceanography of the Academy of  
Sciences of the U.S.S.R. Izv. AN SSSR. Ser. geog. no.5:119-123 S-0  
'57. (MIRA 11:2)

(Oceanographic research)

SUYETOV, S.V.

Oceanographic investigations in the Bering Sea, October-  
December 1953. Trudy Inst.ocean. 16:47-69 '59.  
(MIRA 13:3)

1. Uchenyy sekretar' Instituta okeanologii AN SSSR.  
(Bering Sea--Oceanographic research)

SUYETOVA, I.A.

Map and areas of ancient glaciation within the territory of the  
U.S.S.R. Vest. Mosk. un. Ser. 5: Geog. no. 2:53-55 Mr-Ap '61.  
(MIRA 14:4)

1.Kafedra obshchego zemlevedeniya Moskovskogo universiteta.  
(Glacial epoch—Maps)

SUYETOVA, I.A.

Ancient glaciation areas in the U.S.S.R. Priroda 51 no.9:122-123  
S '62. (MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
(Glacial epoch)

S/639/62/000/000/001/002  
B144/B186

AUTHOR: Suyetova, I. A.

TITLE: Cartometry of Antarctica

SOURCE: Antarktika; doklady Komissii [t. 2] 1961. Mezhdoved. kom.  
po izuch. Antarktiki AN SSSR. Moscow, Izd-vo AN SSSR, 1962,  
7 - 11

TEXT: The surface area of Antarctica was calculated from the  
1:3,000,000 "Map of Antarctica" of the Soyuzmorniprojekt, edited 1961 by  
B. V. Dubovskiy, and compared with the data of P. H. Kosack ("Wie gross  
ist das Suedpolargebiet?" ("How large is the South Polar Region?"),  
Petermanns Geographische Mitteilungen, 94. Jahrgang, 1950), based on a  
1:4,000,000 map. The methods of calculation are described. To arrive at  
an exact definition, the surface areas should be determined as follows:  
(1) Continent (A) without ice shelves (B), without islands connected by  
these ice shelves with the continent (C), and without islands within the  
range of the continental sand banks (D); (2) A + B + C, without D;  
(3) A + C; (4) A + C + D; (5) A + B + C + D; (6) A + shelf. The surface

Card 1/2

SUYETOVA, I.S., mladshiy nauchnyy sotrudnik

Morphometric characteristics of Antarctica. Inform.biul.Sov.  
antark.eksp. no.48:8-11 '64. (MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet.

JULIN, Y. S., and PRAVEDNIKOVA, D. Y.

"Influence of strain on the ozonization rate of rubbers," a paper  
presented at the 9th Congress of Chemistry and Physics of High Polymers,  
28 Jan-2 Feb 57, Moscow, Rubber Research Inst.

B-3,004,395

ACC NR: AM6028929 (N)

Monograph

UR/

Suyevalov, Leonid Fedorovich

Self-adjusting systems in marine automation (Samonastraiivayushchiyesya sistemy v sudovoy avtomatike) Leningrad, Izd-vo "Sudostroyeniye", 1966. 235 p. illus., biblio. 2,500 copies printed.

TOPIC TAGS: marine engineering, automatic control equipment, automatic control theory, automatic stabilization equipment, automation

PURPOSE AND COVERAGE: This book is intended for engineering personnel specializing in designing and calculating automatic systems, and can be useful to students in universities studying these problems. The book discusses general methods for designing self-adjusting systems and describes the classification of them. There are 56 references, 51 of which are Soviet.

TABLE OF CONTENTS [abridged]:

Introduction -- 3

Ch. I. Classification and principles of designing self-adjusting automatic systems -- 9

Card 1/2

UDC: 629.12-52

ZHENILOV, Yevgeniy Petrovich, kand.tekhn.nauk; SUEVALOV, Leonid Fedorovich,  
kand.tekhn.nauk, dotsent

Contactless magnetic relay with current transients in the load.  
Izv. vys. ucheb. zav.; elektromekh. 4 no.9:111-112 '61. (MIRA 15:2)

1. Voenno-morskaya akademiya (for Suyevalov).  
(Electric relays)

Z/011/62/019/001/007/017  
E073/E136

AUTHOR: Lebedev, A.Kh. and Suykin, N.I.

TITLE: Catalytic alkylation of tetralin in the presence of metallic aluminium

PERIODICAL: Chemie a chemická technologie. Přehled technické a hospodářské literatury, v.19, no.1, 1962, 32, abstract Ch 62-439. (Neftekhimiya, v.1, no.1, 1961, 39-45).

TEXT: The conditions of alkylation of tetralin with n-butyl-, n-heptyl- and n-octylbromide in the presence of metallic aluminium were studied. The main reaction products were 6-alkyltetralin in addition to 6,7-dialkyltetralin. The length of the chain had no influence on the position of the substituent.

[Abstractor's note: In the original Russian paper this last sentence reads: The chain length has no influence on the yield of 6-alkyltetralin. The Czech abstract is probably wrong.]  
4 tables, 47 references.

[Abstractor's note: Complete translation.]

Card 1/1

ACC NR: AP6031665

of combined radiation-mutagen effects were obtained; however,  
incubation temperature affected mutation rate, decreasing from  
12% at 7°C and to 8% at 15°C. [WA-50, CBE No. 12]

SUB CODE: 06/ SUBM DATE: 01Oct65/ ORIG REF: 013/ OTH REF: 012

Card 2/2

ACC NR: AP6031665	(A)	SOURCE CODE: UR/0216/66/000/005/0739/0743
AUTHOR: <u>Suykova, L. A.</u>		
ORG: <u>Institute of Biological Physics, AN SSSR, Moscow</u> (Institut biologicheskoy fiziki AN SSSR)		
TITLE: Mutagenic activity of new chemical compounds, and their <u>genetic effect</u> when combined with ionizing radiation		
SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 5, 1966, 739-743		
TOPIC TAGS: organic compound, alkylating compound, ethylene imine, mutagen, chemical mutagen, ionizing radiation, mutation, <i>BIOLOGIC MUTATION</i>		
ABSTRACT: Beta-bis-chloroethyl amine and ethylene imine derivatives were tested and found to induce mutations in barley F <sub>2</sub> generations. These organic alkylating compounds are being used as chemical mutagens in plant selection studies at the Institute of Biological Physics. Mutagen K <sub>32</sub> proved to be the most active, producing 16—41% modified progeny and rare mutations not obtained with other compounds. The radiation source was Co <sup>60</sup> (10 cu at 500 r/min). No conclusive results.		
Card 1/2	UDC: 575	

DUBININ, N.P.; SHCHERBAKOV, V.K.; KESLER, G.N.; STYKOVA, L.A.

Specificity of the object in induced mutagenesis. Dokl. AN SSSR  
165 no.1:210-213 N '65. (MIRA 18:10)

1. Institut biologicheskoy fiziki AN SSSR. 2. Chlen-korrespondent  
AN SSSR (for Dubinin).

S/080/62/035/002/005/022  
D204/D302

AUTHORS: Sviridova, A. I. and Suykovskaya, N. B.

TITLE: Properties of  $ZrCl_4$  and  $ThCl_4$  solutions in ethyl alcohol

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 2, 1962, 280-285

TEXT: Solutions containing 0.02 - 2.0 g moles  $ZrCl_4$  and 0.5 - 1.5 g moles  $ThCl_4$ /l EtOH were studied in view of their practical and theoretical interest. The effects of concentration on the stability, acidity, refractive indices and specific and molar conductivities were investigated. The acidity, determined by titration with alc. KOH increased almost linearly with concentration, except for a positively curved portion between 0.8 and 0.9 g mole chloride per liter.  $ZrCl_4$  solutions were more acid than those of  $ThCl_4$ . Similar increases of the refractive index and specific conductivity were observed when the concentrations were increased, with a curved portion and a maximum respectively at 0.8 - 1.0 g mole chloride/l,

Card 1/2

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